

THE SCHOOL LUNCH



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THE OHIO STATE UNIVERSITY

THE OHIO STATE UNIVERSITY, COLUMBUS, OHIO, AND THE UNITED STATES DEPARTMENT
OF AGRICULTURE, COOPERATING

FREE—Cooperative Agricultural Extension Work—Acts of May 8 and June 30, 1914.

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THE SCHOOL LUNCH

Many mothers and community leaders in Ohio are working for the development of healthier children. Leaders in many townships have devised plans for a hot school lunch as a part of this movement. This bulletin is prepared to help such leaders in county extension programs to extend the work to every child in the State who carries a lunch to school. The hot school lunch project succeeds best when it becomes a community enterprise.

Why the Hot Lunch is Needed

During the school year, almost one-third of the food supply of the rural-school child is eaten at school. Many of these children are suffering from malnutrition. This is not always caused by lack of sufficient food; often the type of food needed is not included in the day's supply, or the conditions under which the food is eaten are such that the child does not derive the greatest possible benefit from the food. Hurried eating is one of these conditions. Eating at irregular intervals and lack of a hot dish at noon time to arouse an appetite and stimulate digestion are other conditions.

Specialists in child care and food selection state that a hot dish at noon time, with the consequent supervision of the noon-day meal of the school child, will help greatly to reduce the number of poorly nourished children.

Boards of education are considering the problem from the economic viewpoint, because there seems to be a relation between malnutrition and retardation in school. A poorly nourished child is an economic liability in any school system.

Reports show that the serving of one hot dish at noon has led to improved physical condition and a higher grade of scholarship. This hot dish has additional value because it lessens the need of discipline in the school room; it tends to promote order and sociability during the lunch period; by taking an active part in preparing and serving the hot dish, the children learn to assume responsibility for both home and school tasks; and the "breaking of bread" together gives the teacher splendid opportunity to teach habits of cleanliness, proper habits of eating, and good table manners.

Lunch work may easily open the way for discussions of food, health, care of teeth, and relation between weight and health, and thus carry into the home to be put into immediate practice important rules governing growth and health. Teachers report that the results of the lunch work have more than repaid them for the added responsibility.

Body Needs of the Growing Child

Foods must supply the child with material for physical development as well as give him resistance to disease. This bulletin can not present many of the principles of child feeding, but the following rules are important:

1. *There must be a sufficient quantity of food eaten.* Many children eat too little, due to lack of appetite. The child must have food to provide material to build muscles, blood, bones, and other tissues of the body; to provide energy for work and play; to carry on the life processes such as respiration, digestion, and assimilation; and to promote growth.

2. *Variety in the child's diet is essential to health.* Every day the diet of the child should contain some of each of the following foods: (1) milk; (2) eggs, fish, meat or chicken, or a substitute; (3) bread, cereals, and other grain products; (4) vegetables; (5) fruits; (6) sweets; and (7) fat. Suggestions on the use of these foods in the diet, and the approximate amounts needed daily, are given in the following paragraphs.

(1) *Milk.*—This is the best and most important food for growing children. No other food can take its place. A quart of milk each day for every child under 16 years of age is a safe rule.

(2) *Eggs, Fish, Chicken or Meat, or their Equivalents.*—Where plenty of milk and an egg a day are included in the child's diet, very little meat need be given before the seventh year. Allow not more than 2 ounces of meat daily for a child from 7 to 10 years; 3 ounces daily from 10 to 14 years.

(3) *Bread, Cereals, and other Grain Products.*—These should furnish at least one-third of the food required by the child. The most nourishing ones should be included in the diet; cereals and flours with some of the outside of the grain are more nourishing than the refined flours. Hence, entire wheat flour and brown rice are better than white flour and white rice. They also help to prevent constipation.

Cereals should be thoroly cooked. They may be boiled directly over the fire, but for long cooking it is safer to use a double boiler or a fireless cooker. Milk may be substituted for water except when cooked directly over the fire. The use of milk increases the food value and improves the flavor.

(4) *Vegetables.*—Vegetables form an essential part of the diet. There is little danger of eating too much of the right kind of vegetables in a well chosen diet. Oftentimes hunger is due to the

absence of vegetables in the meals, and children who crave more food find their appetite satisfied where vegetables are given regularly. They are very important in helping to guard against constipation. They give volume or bulk to the food. Potatoes—baked, boiled, or mashed—should be given practically every day. Other valuable vegetables are peas, beans, spinach, onions, string beans, squash, cauliflower, asparagus, carrots, celery, parsnips, oyster plant, turnips, and all kinds of “pot greens” such as beet tops,



"Lunch Is Served"

turnip tops, dandelions, chard, and lettuce. When fresh vegetables are not available, dried or canned vegetables may be used. In soups and stews there should be less meat and more vegetables than are commonly used. Meat should be used chiefly for flavoring.

Much valuable food material dissolves in the water in which vegetables are cooked, which decreases their value as food. This water should be served with the vegetable or used in the making of gravies and soups.

(5) *Fruits*.—There should be some fruit in the diet every day. Where fresh fruit is not possible, used dried fruit. Fresh fruit should be very ripe, but not decomposed.

(6) *Sweets*.—There is great danger of children getting too much sugar and spoiling the appetite and the digestion. Sugar is less likely to be used to excess when taken only in simple puddings, custards, fresh fruits, vegetables, or in dried fruits such as prunes, raisins, dates, and figs. The child who has some of these foods daily will probably have his need and desire for sweets satisfied. Molasses has a higher food value than sugar. Its larger use should be encouraged. Whatever sweets are given should be at the end of a meal, never between meals or at the beginning of a meal. They spoil the appetite for other food.

(7) *Fat*.—Fat is essential for growing children.* Milk fat (cream and butter) is the most important kind. Children should,



Hot soup made at school completes the lunch

if possible, have whole milk. If the cream is removed from their milk, they should have plenty of butter. All fried foods should be avoided.

Suggestions for the Lunch Carried from Home

The best foods to include are sandwiches, dessert, fruit, and a bottle of milk. The milk may be omitted if it is provided at school.

For sandwiches use the most nourishing kinds of bread, such as whole wheat, oatmeal, brown, raisin, or nut bread. Appetizing fillings may be egg, chopped meat, cheese (American), fresh cottage cheese (plain or combined with dried fruit), sliced tomatoes, chopped beets, crisp lettuce, jelly, peanut butter, chopped raisins, or dates.

Where possible, a baked custard adds variety.

If fruit is not included in the sandwich filling, a small glass jar of some stewed fruit or apple sauce may be added, or some fresh ripe fruit, or a few dates.

For dessert, plain cookies, ginger cookies, date cookies, sponge cake, gingerbread, or sweet chocolate are desirable. Pie, pickles, and rich cake should not be included in the school lunch box.

A small jar with a tight screw top is satisfactory for sauce, puddings, and custards. A bottle may be used for carrying milk.

Types of Containers.—There are several types of lunch boxes which are satisfactory. The best are those which can easily be cleaned. A daily scalding is necessary to keep a lunch box in a



Suitable equipment for carrying the school lunch

sanitary condition. If a metal box is used it should have perforations for ventilation. The box should be of such shape and size that the food can be firmly packed.

A tin pail with five or six nail holes in sides for ventilation or a tin folding box is satisfactory.

A basket may be used if food is wrapped to prevent dust from entering.

Conveniences for Packing.—White paper napkins and oiled paper make it possible to pack a dainty and attractive lunch. Oiled paper may be purchased at a small cost and the linings of cracker and cookie boxes may be utilized in the packing of lunches. A drinking cup, folding knife and fork, and a small container with a lid should be among the conveniences.

Rules for Packing.—Wrap foods in oiled paper before placing in the container.

Pack the container so that the food which is to be eaten first can be taken out without disturbing the remainder.

Equipment and Supplies Needed for Hot Lunch at School

The school sometimes has a fund, obtained from the school exhibits at a fair, or from an entertainment, that the children are willing to invest in the equipment. In some cases, an organization in the community or the school board furnishes the funds for the necessary equipment. A cupboard will be required for storing



Weighing an important part in school lunch work

the cooking utensils, serving dishes, and staple supplies. The supplies should be enclosed to keep out dust and pests. The working space may be the top of a low cupboard, or the cupboard and table may be separate.

Towels, dishcloths, and holders may be donated or bought as part of the equipment. Enough should be provided to have a clean set each day. Some one may be paid to launder them and the cost added to the lunch, or the pupils may take turns in laundering them.

A two- or three-burner gas or kerosene stove is required, the number of burners needed depending upon the number to be

served. A two-burner stove is adequate for 24 pupils. The stove, which is the most expensive article, is often loaned by an interested mother. The hot dish is more easily prepared if the utensils fit the stove and are large enough to hold the required number of servings. If granite utensils are used, care must be taken not to break the enamel by rough handling or by suddenly changing the temperature, as when pouring cold water into a very hot utensil. Pieces of enamel scraped or beaten off during cooking are a source of danger.

A cup, bowl, spoon, and fork are needed for each child. If funds cannot be provided for buying these utensils, they may be supplied by the parents. This individual equipment may be carried to and from school each day and thus avoid the washing of many dishes in the schoolroom.

List of Equipment for Serving Twenty-four.

Cupboard (may be made from	Saucepan, 2 or 3 quart
Table [packing boxes)	2 plates
Oilcloth for table	2 tablespoons
Oil stove (two burner)	2 teaspoons
Oil can	2 paring knives
Water pail	Case knife
Garbage pail with cover	Large stirring spoon (wooden)
Wash basin	Steel fork
Pitcher, 4 to 6 quarts	Measuring cup ($\frac{1}{2}$ pint)
Double boiler (6 quart)	Quart measure
2 dish pans	Butcher knife
2 kettles with handles or bails	Pint ladle
(6 quart)	Vegetable brush
2 asbestos mats	Can opener
Mixing bowl	Paper napkins
Covers for kettles	12 Dish cloths
Containers for supplies	12 Dish towels
Strainer with coarse mesh	12 Hand towels

The individual equipment such as cup, plate, knife, fork, and spoon for each child may be brought from home.

If funds are available the following articles could be added:

Homemade fireless cooker	Colander
Tea kettle	Spatula
Portable oven, one-burner size	Large fork
Baking dish	Potato masher
Serving tray	Wooden mixing spoon
Flour sifter	Food chopper
Egg beater	Boards on which to set hot dishes

Obtaining Supplies.—1. The food supplies may be brought from home by the children as needed. This plan requires much care in planning ahead and is not advisable for a large number of pupils. Soap, scouring powder, and matches must be included in supplies.

2. The committee appointed by the teacher or by the community leader may order the supplies, and the bills are then met by assessing each child a small sum, or by money raised from a school entertainment.

In order to insure cooperation, it is advantageous to have a meeting of the parents to decide upon some definite plan of operation.

Planning and Serving the Hot School Lunch

Equipment left over from previous years or new equipment will need cleaning at the opening of the school year. In addition to this cleaning of utensils, supplies must be labeled and arranged, and the plan of work for each committee definitely decided upon. With this preliminary work well done at the opening of the school year, the remainder of the work will go more smoothly.

Actual preparation of food should be planned in such a way that speed, skill, and cleanliness are stressed. Thrift and sanitation may both be taught in the care of refuse.

Cleanliness of linen and dishes must be insisted upon. The question of personal cleanliness, especially of those who are members of the committees, can be emphasized, thus arousing an interest in clean food shops and developing a feeling of community responsibility.

Children's Work in Connection With the Lunch.—Both boys and girls are needed in conducting the school lunch. Committees attend to the cooking of the food and the dishwashing, arrange for ventilation, provide water and fuel, keep the accounts, and assist in serving the lunch. While it is necessary that the teacher approve the plans and supervise in a general way, she may be relieved of most of the responsibility by appointing children on the following committees:

1. *Committee on Preparation.*—The number on this committee depends upon the number of pupils. A group of four can prepare food for 24. It is a good plan not to have an entirely new committee each week. One or two of the members may be retained for a second week to work with the new members on the following duties:

- a. Decide (with teacher's assistance) upon the hot dishes to be served for one week. Post these and the names of the committees so that all the children may read them and give the information to their parents.
- b. Arrange for the supplies.
- c. Prepare hot dish, or arrange for the food prepared at home to be reheated at school.

- d. Keep prepared dish hot until ready to serve.
- e. Taste the food before serving it to be sure that it is palatable and well seasoned. Use a tasting spoon and do not dip the tasting spoon into the food.

2. *Committee on Serving.*—Two pupils will be needed for the serving of 24. This committee may be changed each week and charged with the following work:

- a. Set out the individual dishes for serving.
- b. Place napkins on desk and place spoon or fork at the right.
- c. Serve the hot dish.

3. *Committee on Cleaning.*—Two pupils will be needed for each 24 pupils. This committee also may be changed each week and have charge of

- a. Provide hot water for dishwashing.
- b. Collect used dishes and utensils, or have each pupil return his soiled dishes to the table.
- c. Wash dishes.

4. *Committee on Accounts.*—Two pupils are needed.

- a. Keep accounts of funds received.
- b. Pay bills.
- c. Balance accounts each week.

Points Emphasized at Lunch Hour.—

1. Room thoroly aired before lunch hour.
2. Hands washed before eating lunch.
3. Desk clean; with oilcloth protection and with paper or cloth napkin, bowl or cup, spoon, and lunch box at desk.
4. Each child is served in order or each child goes in turn to be served.
5. The following rules should be observed during lunch hour: Eat lunch slowly, with pleasant conversation. Keep lips together when food is in the mouth.
Eat lunch in order, dessert last.
Sit erect and keep arms off desk or table.
Wait until companions have finished lunch before leaving desk.
6. Clean desks carefully.
7. Put room in order.

Rules for Dishwashing.—

1. Housekeeper put water to heat before eating lunch.
2. Use plenty of warm, soapy water and clean dishcloth.
3. Wash silverware, scald and wipe dry.
4. Wash dishes and place in wire drainer over pan.
5. Scald thoroly, drain and put away.

Suggestions for the Hot Dish

It is well to serve only one hot dish each day. This should be varied daily, should be nourishing, simple in character, and easy to prepare. Such dishes might include the following:

1. Cocoa.
2. Cream of vegetable soups (made with fresh, canned, or dried vegetables).
3. Dried vegetable soups (made without white sauce, using the vegetable to thicken the soup).
4. Creamed dishes.
5. Scalloped dishes.
6. Cereals.
7. Hot apple sauce.

Table of Measurements

3 teaspoons=1 tablespoon	2 tablespoons sugar=1 ounce
16 tablespoons (dry)=1 cup	2 tablespoons butter=1 ounce
2 cups=1 pint	2 cups sugar=1 pound
2 pints=1 quart	2 cups solid fat=1 pound
	4 cups flour=1 pound

Recipes

White Sauce.—Thin white sauce may be used as the basis for all milk soups and medium white sauce for creamed vegetables.

Kind	Liquid	Fat	Flour	Uses
Thin.....	1 cup	1 tablespoon	1 tablespoon	Soups
Medium....	1 cup	1 tablespoon	2 tablespoons	Creamed Dishes

Methods of Combining:

1. Melt the butter in a saucepan and when bubbling add flour and stir until smooth. Remove from fire and add milk, stirring constantly. Cook for 5 minutes.

If a large quantity of white sauce is made it is better to scald the milk before combining with the butter and flour. In order to avoid a lumpy mass, thin the blended butter and flour with a small amount of cold milk which has been reserved, then follow with the scalded milk. In most cases this method is to be preferred, as it gives a white sauce of good flavor, because the starch in the flour is well cooked when combined with the butter over the flame.

2. Cream the butter with the dry ingredients. Add the hot milk gradually, stirring to keep the mixture smooth. Cook 5 minutes, stirring while it thickens.

3. Mix the dry ingredients and blend with enough cold milk to pour easily. Have the rest of the milk hot and add the mixture

to it gradually, stirring constantly until thickened. Cook 5 minutes. Stir in the butter. The amount of butter may be decreased or omitted, when the sauce is made by this method.

The amounts given in the following recipes are sufficient for 24 servings.

Creamed Vegetables.—Use 1 cup of white sauce for 3 cups of cooked vegetable and plan to serve at least $\frac{2}{3}$ cup of the creamed vegetable to each child. For 24 children there should be 16 cups of creamed vegetable made by adding 4 cups of white sauce to 12 cups of cooked vegetables. Cook vegetables in boiling salted water. Drain and add hot white sauce. The following vegetables are sug-



Hot food at noon helps make healthy children

gested: potato, carrot, onion, string bean, pea, parsnip, turnip, and celery. A combination of carrots with peas or string beans gives variety.

Macaroni.—The directions for creamed vegetables may be followed in preparing creamed macaroni. One pound of uncooked macaroni will be sufficient when cooked and combined with four cups of medium white sauce to serve 24 pupils.

Break the macaroni in pieces and wash it in cold water. Cook in boiling salted water until soft. For each cup of uncooked macaroni allow about 2 quarts of boiling water.

When the macaroni is soft, drain and pour cold water over to prevent pieces from clinging together. Drain, add white sauce,

reheat and serve. A pleasing variation may be made by adding 1 cup of finely cut cream cheese to the 4 cups of white sauce before adding to the macaroni. Do not boil the sauce after adding the cheese.

General Directions for Making Cream Soups.—Prepare the fresh vegetables by paring and slicing or dicing. Cook until tender in sufficient water to keep the vegetables from sticking. When the vegetables are tender drain the liquid into a bowl and mash the vegetables thru a sieve. Canned vegetables should be cooked a few minutes, using the liquid in the can and adding water if necessary.

While the vegetables are cooking, make the white sauce. Substitute the liquid in which the vegetables were cooked for an equal amount of the milk called for in the white sauce recipe. Add vegetable pulp and seasonings to white sauce and heat the combined mixture.

CREAM SOUPS.—Amounts given are for 24 servings.

Kind	Amount of vegetable	Liquid	Flour	Butter	Seasoning
POTATO	12 to 15 potatoes or 4 to 5 pounds. (3 medium-sized potatoes weigh 1 pound.)	5 quarts milk, including the water in which the potatoes were cooked	$\frac{2}{3}$ cup	1 cup or less	3 tablespoons salt. $\frac{1}{2}$ teaspoon pepper Onion Celery
PEA	3 quarts canned or fresh	5 quarts milk, including liquid on peas	$\frac{3}{4}$ cup	1 cup or less	2 tablespoons salt. $\frac{1}{2}$ teaspoon pepper
CORN	$2\frac{1}{2}$ quarts or 10 cups	5 quarts milk, including liquid on corn	$\frac{3}{4}$ cup	1 cup or less	2 tablespoons salt. $\frac{1}{2}$ teaspoon pepper Onion
CARROT	12 medium-sized carrots. (Carrots average 3 to the pound.)	5 quarts milk, including liquid in which carrots were cooked	1 cup	1 cup or less	3 tablespoons salt. $\frac{1}{2}$ teaspoon pepper Onion
CELERY	5 stalks. (One medium-sized stalk will give two cups of celery cut in pieces.)	5 quarts milk, including liquid in which celery was cooked	1 cup	1 cup or less	3 tablespoons salt. $\frac{1}{2}$ teaspoon pepper Onion

Other vegetable combinations may be made, following the general rule of equal amounts of thin white sauce and cooked vegetable. Dried peas and beans may be used in place of fresh vegetables.

Other combinations of vegetables may be used to advantage.

Cream of Tomato Soup.—

9 cups tomatoes	1 cup flour
1 teaspoon soda	4½ quarts milk
½ cup butter	Salt and pepper

Cook tomato until soft enough to strain. Strain, add soda. Make white sauce and combine mixtures. Serve immediately.

Corn Chowder.—

4 cans corn	3 onions sliced	¼ teaspoon pepper
3 quarts potatoes	2 quarts boiling water	Crackers
¼ pound salt pork	4 teaspoons salt	4 quarts scalded milk

Try out the pork and brown the onion in the fat. Cut potatoes into thin slices, and add to onion. Add boiling water and cook until potatoes are tender. Add corn and milk and bring to boiling point. Add seasoning and crackers. Serve immediately.

Steamed Rice.—

3 cups rice	3 quarts boiling water
2 teaspoons salt	

Pick over the rice and wash it thoroly. Put it with the boiling water and salt, in upper part of double boiler. Steam for 1½ hours or until the grains are tender. This may be served as a cereal with cream and sugar, or seasoned with butter and eaten as a vegetable. If there is plenty of milk at hand the flavor of rice is improved by cooking it in milk instead of water. If it is to be eaten as a cereal with cream and sugar, a few dates or raisins added just before serving makes it more attractive.

Cocoa.—

4 quarts of milk	1 teaspoon salt
1 cup cocoa	1 quart water
1 cup sugar	

Place the milk in a kettle and scald, but do not boil. Mix cocoa, sugar, and salt together and add to boiling water. Boil for 5 minutes. Add this to the scalded milk and serve.

On page 16 is shown height and weight tables for boys and girls. The standard or average weight for a child is found where the horizontal column opposite the height crosses the vertical column under the age. Illustration—The standard weight for a girl 50 inches high and nine years old is 58 pounds.

Children should be weighed and measured without shoes and in only the usual indoor clothes; boys should remove their coats.

Measurements for heights should be taken with the child standing with feet close together and close against the measuring line; or for school use, a measuring tape may be tacked against the wall and a book placed on the child's head edgewise, to mark his height.

Only scales with bar and weights should be purchased for school use. Spring scales with dial face are not very durable and are likely to get out of order soon.

Tables prepared by Professor Thomas D. Wood, Teachers' College, New York City.

HEIGHT AND WEIGHT TABLE FOR BOYS*

Height Inches	5 Yrs	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs
39	35	36	37											
40	37	38	39											
41	39	40	41											
42	41	42	43	44										
43	43	44	45	46										
44	45	46	46	47										
45	47	47	48	48	49									
46	48	49	50	50	51									
47	51	52	52	53	54									
48	53	54	55	55	56	57								
49	55	56	57	58	58	59								
50		58	59	60	60	61	62							
51		60	61	62	63	64	65							
52			62	63	64	65	67							
53				66	67	68	69	70	71					
54					69	70	71	72	73	74				
55					73	74	75	76	77	78				
56					77	78	79	80	81	82				
57						81	82	83	84	85	86			
58						84	85	86	87	88	90	91		
59						87	88	89	90	92	94	96	97	
60						91	92	93	94	97	99	101	102	
61							95	97	99	102	104	106	108	110
62							100	102	104	106	109	111	113	116
63							105	107	109	111	114	115	117	119
64								113	115	117	118	119	120	122
65									120	122	123	124	125	126
66										125	126	127	128	129
67											125	126	127	128
68										130	131	132	133	134
69											134	135	136	137
70												135	136	137
71													138	139
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A boy should gain each month about:

Age 5 to 8.....	6 oz.	Age 12 to 16.....	16 oz.
Age 8 to 12.....	8 oz.	Age 16 to 18.....	8 oz.

HEIGHT AND WEIGHT TABLE FOR GIRLS

Height Inches	5 Yrs	6 Yrs	7 Yrs	8 Yrs	9 Yrs	10 Yrs	11 Yrs	12 Yrs	13 Yrs	14 Yrs	15 Yrs	16 Yrs	17 Yrs	18 Yrs
39	34	35	36											
40	36	37	38											
41	38	39	40											
42	40	41	42	43										
43	42	42	43	44										
44	44	45	45	46										
45	46	47	47	48	49									
46	48	48	49	50	51									
47		49	50	51	52	53								
48		51	52	53	54	55	56							
49		53	54	55	56	57	58							
50			56	57	58	59	60	61						
51			59	60	61	62	63	64						
52			62	63	64	65	66	67						
53				66	67	68	69	70						
54				68	69	70	71	72						
55					72	73	74	75	76	77				
56					76	77	78	79	80	81				
57						81	82	83	84	85	86			
58						85	86	87	88	89	90	91		
59						89	90	91	93	94	95	96	98	
60							94	95	97	99	100	102	104	106
61							99	101	102	104	106	108	109	111
62							104	106	107	109	111	113	114	115
63							109	111	112	113	115	117	118	119
64								115	117	118	119	120	121	122
65									117	119	120	122	123	124
66										119	121	122	124	125
67											121	122	124	125
68												124	126	127
													127	128
														129
														130
														131
														132
														133
														134

A girl should gain each month about:

Age 5 to 8.....	6 oz.	Age 14 to 16.....	8 oz.
Age 8 to 11.....	8 oz.	Age 16 to 18.....	4 oz.
Age 11 to 14.....	12 oz.		

*The age is taken at the nearest birthday.